

# pH CONTROLLER ALARM



## 1. GENERAL

- The pH-1 Controller + Alarm automatically controls dosing pumps to maintain pH. Alarm sounds if pH gets outside the range set.

## 2. INITIAL SETUP

- The pH electrode is shipped pre-wired to the controller.
- Plug in the controller into power.

## 3. SETTING CONTROL POINTS

- The best way to learn this is from the video on our webpage on [setting the alarm points](#).
- There are 4 control points to set: low control, high control, low alarm, high alarm. Each has an initial ON value, and an OFF value. (deadband)
- Enter the default passcode of "1000". Then: 
- On the screen, select option #2: "CONTROL".
- Select HIGH or LOW. (for control points)
- The first control point is "RELAY CLOSE" which is the pH value that activates the pump. The second control point is the "RELAY OPEN" which is when the relay will return to an open state. and the pump turns off.
- The process for the alarm points is similar only you will select #2 "CONTROL" >> #3 "WASH" >> #3 "CONTROL ALARMS" >> and then HIGH or LOW as needed.
- You can review the control points at a glance by pressing the  key from the home screen.
- More detailed step-by-step information is on page 8 of the "detailed instructions" on the website.

## 4. CALIBRATION

- Two point calibration is done with 4 and 7, or 7 and 10 buffers.
- Select option #7 "CALIBRATE" on the screen menu. Select #1 "TECH" and follow the prompts.



ACID PUMP      BASE PUMP

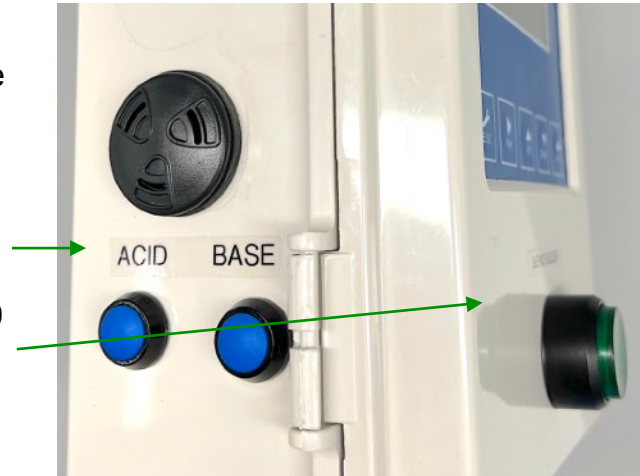


REVIEW CONTROL POINTS

- Video demonstrating the [calibration](#)

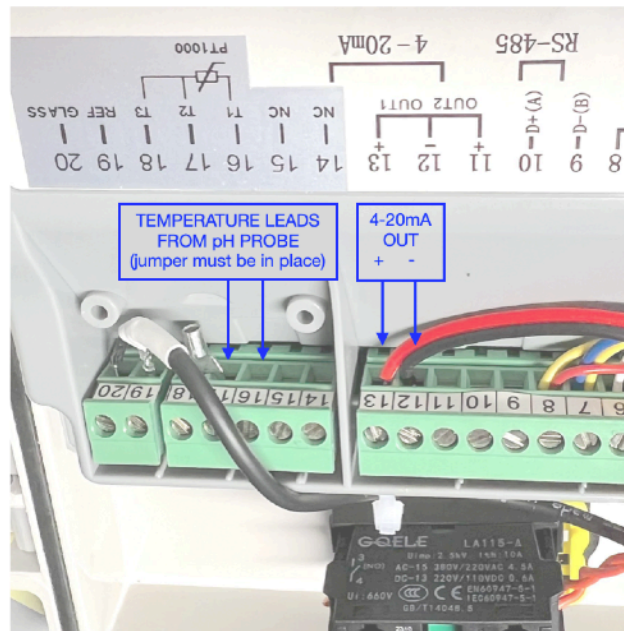
## 5. OTHER INFORMATION

- The yellow stack light indicates when one of the pumps is energized. (whether automatic or manual)
- The blue buttons on the side of the enclosure force the corresponding pump ON while held.
- The front green button silences the alarm for 30 minutes. If the pH has not returned to proper range in that time then the buzzer will sound again. This behavior can be modified if desired.
- Electrodes eventually wear out and so consider them a replaceable part. Detailed instructions on the pH probe maintenance are on our website at [“Electrode Instructions”](#).



## 6. OTHER CONNECTIONS

- The 4-20mA output is wired to the built-in data-logger USB socket, but can also be used to connect to a pump that can accept 4-20mA input. This allows variable pump rate proportional to the pH offset.



## 7. ERROR MESSAGES

The electronics unit checks the health of the pH probe continuously and gives the following warnings if not in spec.

- E1.....the potential deviation during calibration is too large. Try soak the sensor head in 15% hydrochloric acid for about 5 minutes, clean the sensor with clean water, and then recalibrate.
- E2.....the voltage is fluctuating too much during calibration.

WIRING CONNECTIONS